# LHC RF Meeting 3<sup>rd</sup> April 2008

**Participants:** Andy Butterworth, Edmond Ciapala, Daniel Valuch, Frode Weierud, Joachim Tuckmantel, Luca Arnaudon, Olivier Brunner, Philippe Baudrenghien, Pierre Maesen, Thomas Bohl, Trevor Linnecar, Wolfgang Hofle, Vittorio Rossi

#### 1. Sector 3-4 planning:

- After a few checks next week the cooldown will start immediately. The sector should be at 80K by mid-May, with cavity cooldown the week after.
- Trevor raised the concern that after the ping-pong ball measurements there may be contamination of the vacuum system. We should have a procedure with vacuum group to ensure that the cavities are not polluted when opening the sector valves.

### 2. Point 4 remaining work

- Infrastructure and cabling: A list has been compiled of remaining installation work by Luca from a meeting yesterday. FSU work has been organised and will start at the beginning of next week.
- **HOM cables** from the tunnel have been checked for 500hm continuity. 1 broken connector was replaced; on 2 cables a mismatch of about 10% was seen. This could be due to some cables being unterminated at the multiplexer distribution.

#### **4** Synchro installation:

- Hardware installation is advancing well, and is on track to be finished by mid-April.
- **Extraction/injection warning:** For the generation of the extraction/injection warning in the SPS it has to be defined whether to use an LHC injection pulse generator or whether to resurrect the old SPS system. After the meeting it was decided to use the new LHC-style hardware (Philippe, José, Andy).
- **Faraday cage hardware:** Only one cavity (C8B1) is currently fully installed.

### 3. SPS rephasing

Development is well advanced. There are some minor outstanding problems with the batch TDC acquisitions used for averaging a number of measurements. Testing continues in the lab. It is hoped to have a demonstration with the loop closed in the next 2 weeks.

## 4. ADT

Cable length equalisation has been done, and all passive elements evaluated. When cooling water is back on next week, it will be possible to test the whole chain from start to end.

#### 5. Low Level hardware

- Comb filters: The quality of the comb filters produced in TS-DEM is highly variable, and production is now being treated on a filter by filter basis. The problems have been traced to the quality control in the production process in TS-DEM. There are only 24 plates left of the original batch of dielectric material. The bad filters can be used for non-critical applications e.g. in the phase loop where there is a large damping due to cable attenuation. This should be acceptable for LHC startup where we will have large bunch spacings.
- **ADT DSPU:** The DSPU design is complete. The production timescale is end June for 4 pieces. The firmware is still being developed, but the memory map has been defined, and software development can start.

Longitudinal 1-turn feedback: 2 pre-series modules have been received, and these look good. They have been validated in the lab on a cavity simulator. Installation in 16 cavities should be possible in September/October.

## 6. SM18:

- The couplers and double tubes for module LHC4 are nearly ready in 112, and will shortly be mounted on the module.
- Cavity 21 has been conditioning for several weeks now. It is currently quenching at around 1.2 MV/m, and is thus excluded for use in LL tests.

# **7. APWL:**

A broken summing hybrid for phase measurement has been replaced with a spare and repaired. The signal acquisition hardware (Acqiris digitizers) has been installed but there are still some control problems.

Next Meeting: Thursday 10th April in 864 1 C02 at 08:45

Andy Butterworth, 8<sup>th</sup> April 2008